

Reply to Office Action of May 11, 2005
Amendment Dated: August 11, 2005

Appl. No.: 09/904,593
Attorney Docket No.: CSCO-008/4339

REMARKS

Claims 1-11, 16-23, 27-35, and 39-47 were examined in the outstanding office action mailed on 05/11/2005 (hereafter "Outstanding Office Action"). The specification and claims 7, 8, 11, 22, 33, 35, 45 and 47 have been objected to, claims 11, 20, 23, 41, 43, and 47 are rejected under 35 U.S.C. § 112 second paragraph, and claims 1-11, 16-23, 27-35, and 39-47 were rejected under 35 U.S.C. § 102(e) as being anticipated by Katsube et al. (U.S. 6,144,661) ("Katsube").

By virtue of this response, the specification and claims 1-3, 7, 8, 11, 16-18, 20, 22, 23, 27-29, 33, 35, 39-41, 43, 45, and 47 are sought to be amended. The amendments are believed not to introduce new matter and their entry is respectfully requested. Claims 1-11, 16-23, 27-35, and 39-47 are thus presented for consideration, further in view of the below remarks.

At the outset, the Examiner is thanked for the detailed examination as well as the numerous suggestions/corrections to the claims.

Election/Restrictions

Applicants acknowledge that the restriction requirement has been made final, and further reserve the right to petition the director to review the requirement. Any request for reconsideration required prior to such a petition is hereby respectfully presented. See 37 CFR § 1.144.

The non-elected claims 12-15, 24-26, 36-38, and 48-51 are thus placed in the 'withdrawn' status.

Information Disclosure Statement

Applicants thank the Examiner for considering the information disclosure statement (IDS) submitted on 2/7/2002, and for acknowledging the same in the Outstanding Office

Reply to Office Action of May 11, 2005
Amendment Dated: August 11, 2005

Appl. No.: 09/904,593
Attorney Docket No.: CSCO-008/4339

Action.

Objections

The specification has been objected suggesting that the embedded hyperlink be deleted. The specification is sought to be amended to comply with the suggestion.

5 Withdrawal of the objection is respectfully requested.

Claim 7 has been objected to noting that – on line 3, the word "the" is missing before word "second". Also, on line 4, the word "vale" should be "value".–. In response, claim 7 is sought to be amended to replace "vale" by "value" and to insert the word "the" before second, as suggested. Withdrawal of the objection with respect to amended claim

10 7 is respectfully requested.

Claim 8 is sought to be amended to insert the word "a" before the word "signaling" as suggested by the Examiner. Withdrawal of the objection with respect to amended claim 8 is respectfully requested.

Each of claims 11 and 35 is sought to be amended to replace the term "NSP" with

15 "a network service access point (NSAP)" and also to insert the word "a" before the word "precedence" as suggested by the Examiner. Withdrawal of the objection with respect to amended claims 8 and 35 is respectfully requested.

Each of claims 22, 33 and 45 is sought to be amended to replace the word "vale" with the word "value" as suggested by the Examiner. Withdrawal of the objection with

20 respect to amended claim 22, 33 and 45 is respectfully requested.

Claim 47 is sought to be amended to replace the phrase "the router of 41" with the term "the router of claim 41", and also to insert the word "an" before the word "edge", also as suggested by the Examiner. Withdrawal of the objections with respect to amended claim

Reply to Office Action of May 11, 2005
Amendment Dated: August 11, 2005

Appl. No.: 09/904,593
Attorney Docket No.: CSCO-008/4339

47 is respectfully requested.

Claim Rejections - 35 U.S.C. § 112

5 Claims 11, 20, 23, 41, 43, and 47 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The rejections are believed to be rendered moot in view of the foregoing amendments, as explained below.

Claim 11 is sought to be amended to depend on claim 5 as suggested by the Examiner. Withdrawal of the rejection under 35 U.S.C. § 112 with respect to claim 11 is respectfully requested.

10 Claim 20 is sought to be amended to replace the term "said second router" with "said another router", as suggested by the Examiner. Withdrawal of the rejection under 35 U.S.C. § 112 with respect to claim 20 is respectfully requested.

15 Claim 23 is sought to be amended to replace the term "said Signaling set up message" with "a Signaling set up message", to overcome the insufficient antecedent basis problem, pointed by the Examiner. Withdrawal of the rejection under 35 U.S.C. § 112 with respect to claim 23 is respectfully requested.

Claim 41 is sought to be amended to replace the term "said table" with "said SVC table", as suggested by the Examiner. Withdrawal of the rejection under 35 U.S.C. § 112 with respect to claim 41 is respectfully requested.

20 Claim 43 is sought to be amended to replace the term "said second router" with "said another router", as suggested by the Examiner. Withdrawal of the rejection under 35 U.S.C. § 112 with respect to claim 43 is respectfully requested.

Reply to Office Action of May 11, 2005
Amendment Dated: August 11, 2005

Appl. No.: 09/904,593
Attorney Docket No.: CSCO-008/4339

Claim 47 is sought to be amended to replace the term "said table" with "said SVC table", as suggested by the Examiner. Withdrawal of the rejection under 35 U.S.C. § 112 with respect to claim 47 is respectfully requested.

Claim Rejections 35 U.S.C. § 102

5 Claims 1-11, 16-23, 27-35, and 39-47 were rejected under 35 U.S.C. 102(e) as being anticipated by Katsube et al. (U.S. 6,144,661) ("Katsube"). The claims, at least as sought to be amended, are believed to be allowable over Katsube, for reasons noted below.

Claim 1 recites in relevant parts:

10 A method of providing differentiated services for IP packets transported on an asynchronous transfer mode (ATM) backbone, said method comprising:
 provisioning a first switched virtual circuit (SVC) and a second SVC on said ATM backbone, *each of said first SVC and said second SVC being provisioned as a unicast point-to-point virtual circuit terminating between same end devices*,
 receiving an IP packet;
15 *determining whether to send said IP packet on said first SVC or said second SVC according to services desired to be provided for said IP packet*, and
 sending said IP packet on the *determined one of said first SVC or said second SVC*.
 (Amended claim 1, *Emphasis Added*)

20 Thus, a method in accordance with amended claim 1 provisions two SVCs between same end devices. A received IP packet is then sent on one of the two SVCs depending on the services desired for the IP packet.

By providing such SVCs between the same end devices, differentiated services can be provided for IP packet packets using the same path between the two end devices.

25 Katsube does not disclose or reasonably suggest providing SVCs provisioned as unicast point-to-point virtual circuits between the same end devices.

Accordingly, withdrawal of the rejection under 35 U.S.C. § 102(e) with respect to

Reply to Office Action of May 11, 2005
Amendment Dated: August 11, 2005

Appl. No.: 09/904,593
Attorney Docket No.: CSCO-008/4339

amended claim 1 is respectfully requested. Claims 2-11 are allowable at least as depending from an allowable base claim.

Amended claim 2 is independently allowable over Katsube at least as reciting that a header of the IP packet is examined to determine the services desired for the IP packet.
5 It should be appreciated that the IP packet, the header of which is examined, is the same IP packet as that received and sent in claim 1.

With respect to previously presented claim 2, it was stated in the Outstanding Office Action:

10 ... is anticipated by the processing of the received IP message to determine the ATM level requested service attribute for the corresponding output VC spoken of *on column 9, lines 25-31*.
(Page 6, lines 8-11 of Outstanding Office Action, *Emphasis Added*)

In Column 9 lines 25-31, Katsube discloses:

15 In case where the node is a cell-switched router, each node can be *notified of the requested service attribute for the new receiving party by the sending party or receiving party with a network-layer (IP) message*, such as an RSV. Each node processes the message at network layer to determine the ATM level requested service attribute for the corresponding output VC link. (*Emphasis Added*)

20 From the above-emphasized portion of Katsube, it is respectfully pointed out that IP message appears to be used to notify the requested service attributes of a new receiving party.

In other words, even assuming arguendo that the path to each added party of Katsube forms an SVC (in several remarks below, as well), the disclosure relied upon by the Examiner does not appear to teach that the header of the IP packet is examined to
25 determine the desired services for the IP packet sought to be forwarded then.

In general, it appears that the teaching of Katsube relates to multicast connection

Reply to Office Action of May 11, 2005
Amendment Dated: August 11, 2005

Appl. No.: 09/904,593
Attorney Docket No.: CSCO-008/4339

and each packet for the multicast connection (e.g., received from sending party 101 of Figure 2C of Katsube) would be forwarded on all the previously setup paths (e.g., via 301, 303 and 305) according to the QoS with which the corresponding path is already setup. In other words, the header of the IP packets may not be examined in Katsube to determine the specific SVC on which to forward the IP packet.

Accordingly, it is submitted that Katsube does not disclose or reasonably suggest the features of amended claim 2, and claim 2 is independently allowable over Katsube.

Amended claim 3 is also independently allowable as reciting that, "... maintaining a table indicating a specific one of said first SVC and said second SVC on which to send *IP packets having a specific precedence value in a type of service (TOS) field in said header*, wherein said IP packet is sent on either said first SVC or said second SVC according to the data stored in said table." (*Emphasis Added*)

In other words, the table of claim 3 indicates a mapping of the TOS values to specific one of the provisioned SVCs, and the mapping is used to determine the specific provisioned SVC on which each IP received IP packet is to be sent (based on the mapping data).

It should be noted that the TOS field of claim 3 is contained in the IP header.

Katsube does not disclose or reasonably suggest such features. With respect to previously presented claim 3, it was stated in the Outstanding Office Action:

Regarding claim 3, ..., is anticipated by resource management table 401 of Figure 3d that contains different VPI/VCI values (indicates first and second SVC) that correspond to *constant bit rate (CBR) or unspecified bit rate (UBR) (precedence values) located in a service attribute field (TOS field)*.

In other words, the Examiner appears to equate the CBR/UBR information to the claimed TOS values.

Reply to Office Action of May 11, 2005
Amendment Dated: August 11, 2005

Appl. No.: 09/904,593
Attorney Docket No.: CSCO-008/4339

It is respectfully pointed out that CBR/UBR information would not generally be contained in the header of IP packets, and accordingly claim 3 is also independently allowable over Katsube.

Amended claim 5 is also independently allowable as reciting that, "... whereinsaid
5 set up request is sent only *after reception of a first IP packet to be sent on said first SVC*,
wherein said first SVC is provisioned between said first router and said second router."

In other words, the provisioning of the SVC is delayed until the first packet to be sent on the same SVC is received. In particular, the first packet is sent on the SVC after being provisioned. Such a feature avoids unneeded SVCs from being active before they
10 are actually needed for transporting IP packets.

Katsube does not disclose or reasonably suggest such a feature. With respect to previously presented claim 5, it was stated in the Outstanding Office Action:

Regarding claim 5, ... "wherein the setup request is sent only after reception
15 of a first IP packet to be sent on the first SVC, wherein the first SVC is provisioned between the first router and the second router" is anticipated by the VC setup request transmitted upon the sending party learning a QoS request of the receiving party as spoken of *on column 9, lines 9-25*.
(Page 7, lines 5-9 of the Outstanding Office Action, *Emphasis Added*)

In column 9, lines 9-25, Katsube discloses that:

Also, when the sending party learns a QoS request of the new receiving party, *either by the QoS request in the IP multicast group join request message, etc., or by the RSVP message indicating the QoS request*, the receiving party may transmit the Add.sub.-- Party including the ATM level requested service attribute.
20 Alternatively, a control message containing ATM level requested service attribute information may be sent separately from the Add.sub.-- Party, but in association therewith, by the new receiving party or by the sending party. Each ATM node can be notified of the requested service attribute for the new receiving party with the above Add.sub.-- Party or the control message. (*Emphasis Added*)
25

In other words, Katsube discloses that the new paths are added to a multicast

Reply to Office Action of May 11, 2005
Amendment Dated: August 11, 2005

Appl. No.: 09/904,593
Attorney Docket No.: CSCO-008/4339

connection upon receiving IP multicast group join request message or RSVP message.

Both messages appear to be used only prior to provisioning of the path, but are not sent on the path after being provisioned.

Accordingly, claim 5 is also independently allowable over Katsube.

5 Claim 6 is also independently allowable over Katsube in that the second router is recited as also sending on the first SVC the IP packets having the same precedence value as the first IP packet.

In other words, both the first router and the second router (between which the SVC is setup) would send IP packets having the same precedence value on the same SVC.

10 It appears that at least substantial portion of the disclosure of Katsube relates to multicasting from one sending party to multiple receiving party. There does not appear to be sufficient disclosure to (also for reasons explained above) to suggest that IP packets with the same precedence values are transmitted on the same SVC in both directions.

15 Accordingly, claim 6 is independently allowable over Katsube. The remaining claims presented for consideration are also allowable at least for one or more reasons noted above.

Conclusion

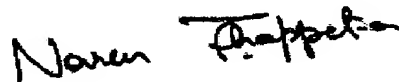
20 Thus, all the objections and rejections are believed to be overcome, at least in view of the above amendments and remarks, and that all the presented claims are in condition for allowance over the art of record. The Examiner is invited to telephone the undersigned representative if it is believed that an interview might be useful for any reason.

Reply to Office Action of May 11, 2005
Amendment Dated: August 11, 2005

Appl. No.: 09/904,593
Attorney Docket No.: CSCO-008/4339

It is not believed that extensions of time or fees for net addition of claims are required, beyond those which may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, then such extensions of time are hereby petitioned under 37 C.F.R. § 1.136(a), and any fees required therefor (including fees for net addition of claims) are hereby authorized to be charged to Deposit Account No.: 20-0674.

Respectfully submitted,



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